COVER SHEET

Building the Bridge to E-Coding

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ABSTRACT

The National Centre for Classification in Health (NCCH), in collaboration with the Health Information Management Association of Australia (HIMAA) and the Clinical Coders' Society of Australia (CCSA), recently conducted a nation-wide survey of clinical coders working in Australian hospitals. This survey provided data about the coder workforce in terms of employment conditions, duties, resources, educational backgrounds, and access to and need for continuing education. In addition coders were given the opportunity to express their views regarding the future role of clinical coders and the perceived impact of electronic health records (EHRs) on coding practice. This paper reports managers' and coders' views on the impact of EHRs on coding practice and suggests some changes to the coding function as a result of their implementation.

Survey comments were provided on EHRs by 278 managers and 576 coders. The most common theme identified in both the managers' and coders' responses was the view that EHRs would result in a greater availability, and easier access, to information from which to assign codes. Respondents believed that EHRs will also improve the legibility of records. As a result, both managers and coders indicated a belief that coding quality would be improved with the introduction of EHRs. Technological concerns were raised, with managers emphasising the need for coders to develop better computing skills with the introduction of EHRs, and coders indicating a requirement for increased technical support and improvements in computing facilities. Interestingly, both groups also indicated that there would be an increased involvement of clinicians in the coding process. A belief that there may be greater flexibility in the location that coding is performed was also highlighted. Coders raised additional points in relation to EHRs, specifically an anticipated faster turnaround time for coding, changes to the coding profession, and occupational health and safety issues associated with EHRs.

These issues will be explored in this paper, providing valuable information on the views of Australian clinical coders and managers on the impact of EHRs on future coding practice. In particular, the views of coders regarding changes to their roles and responsibilities will be highlighted. The results of the Coder Workforce survey will be supplemented by a review of the literature.

INTRODUCTION

The newly emerging technologies of electronic health records (EHRs) in the various health information settings across Australia have been met with both a sense of excitement and apprehension. The move towards EHRs heralds a significant change to the storage and retrieval of information in health-care settings, and as a result, the health information management and clinical coding professions are likely to experience shifts in their roles and responsibilities. In this paper, the term 'health information professionals' is used to describe members of the HIM and clinical coding workforce.

BACKGROUND

The National Centre for Classification in Health, in collaboration with the Health Information Management Association of Australia and the Clinical Coders' Society of Australia, recently conducted a nation-wide survey of clinical coders working in Australian hospitals. This survey provided data about the coder workforce in terms of employment conditions, duties, resources, educational backgrounds, and access to and need for continuing education. In addition, coders were given the opportunity to express their views regarding the future of the coding role and the perceived impact of EHRs on coding practice. This paper reports managers' and coders' views and suggests that there may be changes to the coding function as a result of the implementation of EHRs in hospitals.

CONCERNS ABOUT EHRs

The shift from paper-based records to electronic records in the health information field raises concerns, issues and opportunities for the staff involved. Bechert (2002) identified concerns from Health Information Service staff following the conversion from paper-based records to document imaging. These included concerns about individuals being replaced by technology, the effects of system 'crashes', concerns about monitoring of productivity, and apprehension about the increasingly sedentary nature of their work. Beinborn (1999) acknowledged that automated coding technologies will impact on the work of health information professionals, as the development of software to assist the abstraction of diagnoses from EHRs becomes a reality, and suggested that there is some concern amongst coders that their roles will become obsolete in light of this technology.

AIMS OF CURRENT RESEARCH

Based on findings from the 2002 National Coder Workforce survey, the current research examines and compares the views of coding managers and clinical coders regarding the impact that EHRs will have on the role of coders in the future.

METHODOLOGY

The 2002 National Coder Workforce survey was a voluntary survey, conducted by mail, with copies posted to all hospitals in Australia, including public and private institutions and day surgery centres. Reply paid envelopes were included with all surveys to facilitate responses. Data management for the returned surveys was handled by research staff at the Brisbane office of the NCCH.

MATERIALS

The survey itself had two parts. Part I of the survey was for completion by the Manager of the Clinical Coding Service in each hospital. The aim of this part of the survey was to determine strategic issues relating to the size and composition of the coder workforce and to elicit management views about the current coder environment and potential future changes in the roles and responsibilities of coders. Part II of the survey was for coders themselves. It asked questions about the professional backgrounds of those people who work as clinical coders, the education and training they received to learn how to code, the circumstances of their employment and their salary range, the coder support activities offered by the three organisations that they utilise or find most helpful, the issues that impact on their ability to code accurately and completely and their views about possible changes to their roles and responsibilities in the future. A significant number of free-text responses were requested in order to give coders the opportunity to provide as much detail as they wished.

RESPONDENTS

A total of 1277 surveys were sent to eligible facilities in July 2002, of which 749 were public hospitals or day care centres and 528 were private facilities or day care centres. Responses were due by the end of August 2002. Of the 1277 facilities contacted, a total of 424 managers responded to the survey, representing a 33.2% response rate. The number of coders to respond to the survey was 1031.

Both coding managers and coders were invited to provide a free text response to the question "What do you see as the impact of electronic health records on coding practices in the future?" Respondents to this question included 278 coding managers (65.5% response rate for coding managers), and 577 coders (56% response rate for coders).

DATA ANALYSIS

Free text responses were analysed using the QSR NUD*IST program to allow for the exploration and identification of common themes in the responses. Responses were examined and common themes were identified using the text search function, searching for words that identified the presence of each

theme in individual responses. The resultant groups were then re-examined to ensure they were representative of the theme of interest, and calculations were performed to analyse the percentage of responses reflecting each theme.

RESULTS

Six distinct themes could be identified in both the managers' and coders' responses to the impact of electronic health records. In relative order of importance, these themes were categorised as:

1. Easier and faster access to data and a better availability of information
2. Data quality issues
3. Increased need for computing/IT skills
4. Improved legibility of records
5. More involvement of clinicians in medical record documentation.
6. Greater flexibility in the location of coding (i.e. off-site/work from home/centralised coding office).

Two additional themes were identified in the coders' responses:

1. Concerns about the coding profession becoming obsolete .
2. Concerns about the occupational health and safety risks associated with continual use of computers.

ACCESS AND AVAILABILITY OF INFORMATION

A large number of managers' responses (38%) and coders responses (35%) relating to the impact of electronic health records referred to easier access to information and a better availability of information from which to assign codes. Managers believed that easier access to off-site information which is not a traditional part of the paper-based record, and better availability of information, would result in coding from EHRs being less time consuming than paper-based records. Coders believed that the improved access to and availability of information would result in a faster coding turnaround time, through increased efficiency in data extraction. Coders stated that this would enable more of a focus on the actual coding process, rather than the necessity to spend time finding the specific information they required to assign accurate and complete codes.

DATA QUALITY

Nearly 18% of managers and 14% of coders raised data quality issues in their comments about EHRs. The majority of managers (82%) and a more conservative number of coders (65%) stated that EHRs will improve data quality. Reasons for improved data quality included more readily available information and improved legibility of records. Interestingly, approximately 30% of coders suggested that EHRs will have a negative influence on data quality. Reasons given related to a perceived augmented role for clinicians in the coding process and a greater reliance on automated coding. Coders also stated that there would be an changing role for coders, with emphasis on the assessment of data quality, and less involvement in the actual coding of data.

TECHNOLOGICAL SKILLS

For 15% of managers and coders, concerns about the impact of new technology were described as an issue. Managers stated that there would be an increased need for coders to be computer literate and have adequate technological skills to enable them to cope with using computers and finding relevant data from which to code. Managers also suggested that improvements in computing and IT infrastructure and support would be necessary to ensure the efficiency of coders using EHRs. Coders themselves also raised concerns about the adequacy of computer systems to cope with EHRs, with the suggestion that more computer 'down-time' which would considerably affect coders' throughput.

LEGIBILITY OF RECORDS

On a positive note, but with a surprisingly low percentage of responses considering the emphasis of documentation issues towards coding throughout the survey, 13% of managers and coders believed EHRs would be beneficial in improving the legibility of medical records.

CLINICIAN INVOLVEMENT IN CODING

Approximately 12% of managers and 10% of coders stated that there would be an increased involvement of clinicians in the coding process with the introduction of EHRs. Respondents believed that clinicians would be increasingly required to document electronically. They also expressed the view that in the future, clinicians may be responsible for doing their own coding.

FLEXIBILITY OF WORK LOCATION

Finally, a small number of managers and coders (6% and 7% respectively) hoped that having EHRs would enable greater flexibility in the location in which coding is performed. Respondents speculated that coders may be able to complete their coding off-site, either in centralised coding sections or working from home.

CODERS' ADDITIONAL CONCERNS: IMPACT OF EHRs ON THE CODING PROFESSION

Approximately 14% of coders suggested that the introduction of EHRs could result in coding being a more automated process, which they believed could potentially render the coding profession obsolete, or at the very least reduce the number of coding jobs available.

CODERS' ADDITIONAL CONCERNS: IMPACT OF EHRs ON CODERS' HEALTH

A small percentage of coders (3%) raised various occupational health and safety concerns in relation to EHRs, with these respondents believing that a continual use of computers could result in more headaches, eyestrain and neck strain.

DISCUSSION

This research has identified some of the concerns and views of coders and coding managers in relation to EHRs. It was anticipated that managers and coders would have different views about the impact of EHRs on the coding profession, whereas our research showed that managers and coders actually have similar thoughts. The major concerns expressed were in relation to the growing need for technological skills, the automation of coding rendering coders obsolete, the increased involvement of clinicians in the coding process affecting data quality, and occupational health and safety implications of continual computer usage. These concerns are similar to those identified by other researchers in the area (Bechert, 2002; Beinborn, 1999).

The benefits of EHRs that were acknowledged were the greater access and availability of information leading to faster coding turnaround time and improved data quality, the improved legibility of records, and more flexibility in the location of coding. Greater flexibility in the location of coding has been discussed by other researchers, with Hagland (2002) describing the process and outcomes of a 'work from home' project that has been introduced in Minnesota, USA. Paper charts are scanned and indexed and made available to coders through a password protected website. Some of the reported benefits of the program include an increase in coder productivity and lowered costs for the facilities.

FUTURE ROLE OF HEALTH INFORMATION PROFESSIONALS

In light of these concerns and views regarding EHRs, what *are* the likely implications of EHRs for the roles and responsibilities of health information professionals? While there is some concern amongst coders that EHRs will result in their redundancy, most researchers and experts in this area suggest that the profession will undergo changes and that new roles and responsibilities will be created for coders with the introduction of EHRs.

Johns (2000) believes that the coding professionals will become increasingly important in the areas of classification and standards development, healthcare vocabularies, and research. Scichilone (1999) emphasises that this is a 'boom time for coders' due to their understanding of the disease processes and principles of reimbursement in healthcare settings, with possible future roles in the areas of data quality, clinical research, and reimbursement coordination. The American Health Information Management Association (AHIMA) in 1999 further elaborated on the future role of health information professionals in light of EHRs. They suggest that coders will become 'clinical data specialists' with roles in the design and utilisation of auditing software, assessing compliance with clinical data management policies, the assessment and validation of data for reimbursement purposes, and clinical research. McCarthy and Johnson (2002) described the development of three new positions that were created with the introduction of EHR into two hospital sites in the USA, which include:

1. Implementation specialist – involved in the redesign of medical records and development of forms for future use in the EHR.
2. Imaging specialist – responsible for preparing and scanning records.
3. HIM systems specialist – involved in the training of users of EHRs and the maintenance of automated documentation.

In the current HIMAA National Clinical Coder Competency Standards (1996) there are currently two levels of coder: Clinical Coder and Senior Clinical Coder. Under an EHR system, coders may be classified into the following competency domains:

- E-coder – transitional phase whilst EHR still developing, dual systems,
- Senior E-coder – transitional phase whilst EHR still developing, dual systems, experienced/expert coder
- Clinical Coder Data Manager, Clinical Coder Auditor – EHR at hospital/area level.
- Clincal Coder Analyst – 'Super-coder' who can assist in the design and development of software and systems from a business process perspective and nosology expertise. By understanding the clinical governance and uses of data the Super-coder is in an ideal position to assist vendors in product design.

At any level, the clinical coder can become the 'broker' that understands the classification system and competently converse with medical/surgical teams and translate user needs to the IT personnel.

PREPARING FOR EHRs

Hagland (2002) outlines some key advice for individuals preparing for EHRs. This advice has been gleaned from experts in the field in the United States, including health information managers, coding managers, consultants and vendor executives. This advice identifies the need for individual coders to:

1. Educate themselves about the new technologies.
2. Investigate the implications of those technologies for their professional roles.
3. Understand and accept that technological advancements, such as automated coding, are to be anticipated, and that the task of coding may be replaced by more emphasis on quality assurance roles.
4. Upgrade their skills in line with the changing roles that are likely to result.
5. Identify the kinds of knowledge that will be advantageous in future liaisons with clinicians using the new technology.
6. Share their knowledge with colleagues and become involved in the change in their organization as new technologies are implemented.

CONCLUSION

The introduction of electronic health records in health-care settings is likely to result in considerable changes to the health information profession as a whole. While there is growing pressure on health information professionals to become technologically literate and to upgrade their skills in line with the changes to the information systems, there are also benefits that accompany the growth of EHRs, such as improved access to information and clearer documentation. Based on evidence internationally, we in Australia should expect to see shifts in the roles and responsibilities of coders with the introduction of EHRs to more data auditing, research, and involvement in reimbursement-related activities. Coders, with the knowledge and skills that they currently possess, are in an ideal position to embrace new responsibilities. We believe that it is important for health information professionals to keep abreast of the issues, challenges and opportunities that come with the implementation of EHRs, as this profession will play an integral role in the future electronic health environment.

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